

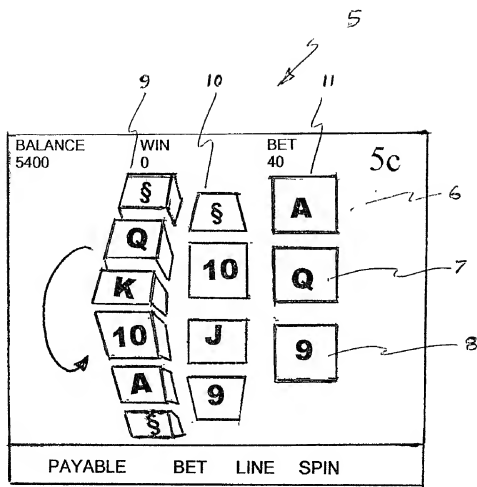
REMARKS

Claims 33-84 are currently pending in the application. Claims 33-67 are rejected. Claim 68-84 are newly added. Claims 33, 34, 36-38, 49, 50, 52-54, and 65 are amended. No new matter has been added.

First Section 103 Rejection

Claims 33-43, 45-59, and 61-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis (WO 2002/32521A1) in view of Berkel (“Image Preparation for 3D-LCD”).

Ellis describes an “electronic game for interactive play on a screen of a slot machine” (Abstract). Figure 2, presented below, of Ellis shows “a game screen 5 displaying symbols in three rows 6, 7, and 8 and three columns, 9, 10 and 11” (page 8, lines 5-6). “Thus column 9 is shown morphing from a two dimensional state to a three dimensional state during execution of a spin command” (page 8, lines 10-12).



Game Screen

Figure 2

Berkel discloses a three-dimensional (3D) liquid crystal display (LCD). Berkel further describes on page 1:

In the 3D-LCD, a sheet of cylindrical lenses (lenticulars) is placed on top of an LCD in such a way that the LCD image plane is located at the focal plane of the lenses.

Berkel also states at pages 2 and 3:

To determine the view number of a given point x, y in the plane of the LCD, we need to know the horizontal offset of that point with respect to the edge of the lenticular under which it is positioned. Using the micro lens magnification m and other definitions apparent from figure 2, this offset is given by

$$x_{\text{offset}} = (x - y \tan(\alpha)) \bmod \left(\frac{m+1}{m} \frac{p_\mu}{\cos \alpha} \right) \quad (1)$$

in which p_μ is the pitch of the micro lenses measured perpendicular to its long axis. $p_\mu / \cos \alpha$ the pitch measured along x-axis, and

$$\left(\frac{m+1}{m} \frac{p_\mu}{\cos \alpha} \right) \quad (2)$$

the projection of that pitch onto the LCD plane using the viewing position as origin. The magnification m can be expressed in terms of the viewing distance D and the lens focal length, f , as $m+1 = f/D$. To simplify things, we divide the projected horizontal lens pitch by the pixel pitch of the LCD p_h and call this the number of views per lens X .

$$X = \frac{m+1}{m} \frac{p_\mu}{p_h \cos \alpha} \quad (3)$$

Note that X is the number of views per lens measured along a single row of the LCD and is different from the total number of views in the multiview system. For instance, in the 7 view example of figure 1, $X=3.5$.

For a data graphic LCD in which pixels are arranged as an orthogonal array of RGB colour triplets, the coordinates x, y can be expressed in terms of the pixel indices k, l and the

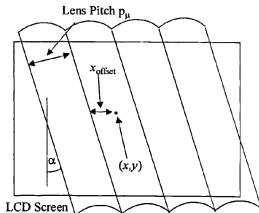


Figure 2 Multiview Pixel Mapping

horizontal pixel pitch p_h as follows:

$$\begin{aligned} x &= kp_h \\ y &= 3lp_h \end{aligned} \quad (4)$$

Note that the indices k, l point to individual red, green or blue (sub) pixels and not to colour triplets. Other relationships between pixel indices and x, y can be written down for displays with different pixel layouts such as video and projection displays.

Dividing the expression for x_{offset} above by the projected horizontal lens pitch, inserting the definitions for X, k and l , and introducing N_{tot} , the total number of views, we find for the view number N of each sub pixel k, l

$$N = \frac{(k + k_{\text{offset}} - 3l \tan \alpha) \bmod X}{X} N_{\text{tot}} \quad (5)$$

This equation can be used to calculate the view number N for each pixel k, l which can then be used to assign the appropriate image data to the pixel. The parameter k_{offset} is introduced into the formula to accommodate an arbitrary horizontal shift of the lenticular lens array with respect to the LCD.

Neither Ellis nor Berkel, considered alone or in combination, teach or suggest a gaming device as recited in claim 33. That is, they fail to disclose a gaming device which employs two algorithms. Thus, for example, the combination of Ellis and Berkel fails to disclose or suggest the claim 33 features of:

identify a selected pixel mapping algorithm for use in mapping selected image pixels associated with one or more selected portions of the stereoscopic images to respective display

pixels of the display screen, wherein the selected pixel mapping algorithm corresponds to a first pixel mapping algorithm if a value of N corresponds to a first value, and *wherein the selected pixel mapping algorithm corresponds to a second pixel mapping algorithm, different from the first pixel mapping algorithm, if the value of N corresponds to a second value, different from the first value*

(Emphasis added).

Rather, Ellis teaches the morphosis of a 2D column of symbols in a slot machine into a 3D column of symbols. Berkel, at best, describes a single algorithm for obtaining a view number N of an image corresponding to a point x, y in a plane of an LCD.

The single algorithm in Berkel applies equations (1) thru (5), described in detail above, to arrive at the view number N given a point x, y in the plane of the LCD. For example, the single algorithm starts with determining, in equations (1) and (2), the x_{offset} , which is the horizontal offset with respect to an edge of a lenticular. This single algorithm further determines, in equation (3), the number of views X per lens of the lenticular, and thereafter determines, in equation (4), a relationship between the position x, y and the indices k, l that point to individual red, green or blue subpixels. The single algorithm further determines, in equation (5), the view number N of each subpixel k, l. There is no description in Berkel of any other algorithm. Accordingly, there is no discussion in Berkel of a second pixel mapping algorithm, different from the first pixel mapping algorithm, if the value of N corresponds to a second value, different from the first value.

Thus, for at least these reasons, Ellis and Berkel do not describe or suggest a gaming device including a second pixel mapping algorithm called for by claim 33. Thus, claim 33 would not have been obvious over Ellis in view of Berkel.

For similar reasons, the combination of Ellis and Berkel does not disclose or suggest the gaming systems in claims 49 and 65. Thus, for at least the reasons set forth above, claims 49 and 65 would not have been obvious over Ellis and Berkel.

The claims which depend from claims 33, 49, and 65 would not have been obvious over Ellis and Berkel for at least the same reasons discussed above with respect to claims 33, 49, and 65. Moreover, certain of the dependent claims include features that are not taught or suggested in Ellis and Berkel.

Thus, for at least these reasons, Applicants respectfully request that the Section 103 rejection of claims 33-43, 45-59, and 61-67 be withdrawn.

Second Section 103 Rejection

Claims 44 and 60 are rejected as unpatentable over Ellis in view of Berkel and Gomez (U.S. Patent No, 7,297,058).

Claim 44 depends from independent claim 33 and claim 60 depends from independent claim 49. As explained above, claims 33 and 49 would not have been obvious in view of Ellis and Berkel. Hence, for at least the reasons set forth above, the combination of Ellis, Berkel, and Gomez does not describe or suggest Applicants claimed invention as recited in dependent claims 44 and 60.

Third Section 103 Rejection

Claims 47 and 63 are rejected as being unpatentable over Ellis in view of Berkel and Aben et al. (U.S. Patent No, 6,208,389), referred to herein as Aben.

Claim 47 depends from independent claim 33 and claim 63 depends from independent claim 49. Claims 33 and 49 would not have been obvious over Ellis and Berkel, as explained above. Hence, for at least the reasons set forth above, the combination of Ellis, Berkel, and Aben does not describe or suggest Applicants claimed invention as recited in dependent claims 47 and 63.

New Claims

Claim 68 depends from independent claim 33.

Claims 69-84 are newly added and have features similar to those recited in claims 33-48. Hence, claims 68-84 would not have been obvious over the cited art for at least the reasons set forth above.

Conclusion

Applicants herewith petition for a one-month extension of time. In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. Early favorable consideration of this Amendment is earnestly solicited and Applicants respectfully request that a timely Notice of Allowance be issued in this case. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (510) 663-1100.

Respectfully submitted,

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